17. The antenna device according to claim **10**, wherein the first and second conductive members are bonded to the first and second surfaces of the dielectric, respectively.

18. The antenna device according to claim **10**, wherein the dielectric comprises a thin plate shape.

19. A wireless communication apparatus, comprising:

an antenna device comprising:

a dielectric comprising a first and a second substantially planar surfaces facing in substantially opposite directions;

an inverted-L antenna disposed at a side of the dielectric;

a first conductive member forming a first loop comprising a first gap, a planar side of the first loop disposed facing the first substantially planar surface of the dielectric; and

a second conductive member forming a second loop comprising a second gap, a planar side of the second loop disposed facing the second substantially planar surface of the dielectric.

20. The wireless communication apparatus of claim **19**, wherein each of the first and second gaps forms an opening in the first and second loops of the first and second conductive members, respectively, a length of each of the first and second conductive members forms an inductance component, a size of the opening forms a capacitance component, the first and second conductive members form an LC resonance circuit including the inductance component and the capacitance component, and at least one of the length of each of the first and second conductive members and the size of the opening is adjusted to control a resonant frequency of the LC resonance circuit.

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